

Recommendation 360  
Solar Generated Power Use at SRS

Background

On September 5, 2018, DOE and SRNS conducted a tour for members of the Citizens Advisory Board for Buildings in A Area. During the tour, two interesting observations were made that (a) biomass was used to produce steam in the A Area, replacing the coal fired plant and (b) that the renovation of the Security Forces building in A Area did not include an update of the electrical supply. Modifications / renovations to the building will include state-of-the-art equipment. However, the electrical supply system was not being updated.

On September 24, 2018, at the Full CAB meeting, David Bender<sup>1</sup> made a presentation entitled, “Savannah River Site Common Infrastructure Challenges.” The presentation showed that the SRS infrastructure is aging. The statistics presented showed that 18% of the site’s utilities are over 50 years of age, 27% are between 30 – 50 years, and 43% are between 15 – 30 years. Only about 12% of site utilities are less than 15 years of age. SRS’s common infrastructure annual planning cycle was presented in the 5-Year Common Infrastructure Improvement Plan. It addresses Common Infrastructure Right Sizing. From the presentation, it is not clear if DOE has made any plans to use renewable solar energy during upgrading the infrastructure.

At SRS, solar panels are already being used at the Storm Water Monitoring Stations and some streetlights in S Area.

Discussion

Cost for residential solar panels has continued to decline (6.5% in the last year). New technologies such as concentrating solar power and thin film materials and devices are improving the efficiency of converting solar energy into electricity. In January of this year, the National Renewable Energy Laboratory published a report<sup>2</sup> which outlined several pathways toward reducing the cost of residential photovoltaics from the current \$0.151 per kWh to the Solar Energy Technologies Office (SETO) goal of \$0.05 per kWh by 2030.

Savannah River Site has a variety of different size facilities with different demands for electrical power. In addition, there is available cleared and uncleared land. The climate at the site provides abundant sunlight.

Recommendation

The SRS CAB recommends that DOE-SR

1. Investigate / consider the feasibility of using solar panels on the rooftop, or common grounds of building(s) to supply renewable energy.
2. Perform a study to determine current and projected costs vs benefits of solar generated power across the range of facilities within SRS. This study should project a minimum of five years out.

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<sup>1</sup> Bender, David,” Department of Energy – Savannah River Site Common Infrastructure Challenges” , Sept 24, 2018.

<sup>2</sup> Ardani, Kristen, Cook, Jeffery J., Fu, Ran, Margolis, Robert. “Cost Reduction Roadmap for Residential Solar Voltaics (PV), 2017-2030” January 2018.